Claims:

According to Examiner's requirements about the Election/Restrictions, Applicant has selected the amended claims 1-15, cancelled the amended claims 16-28, and substituted new claims 29-37 as follows:

Claim 1 (currently amended): A multiuser ~~DSSS-OFDM~~ direct sequence spread spectrum (DSSS) orthogonal frequency division multiplexing (OFDM) multiband of ~~UWB~~ ultra wideband (UWB) ~~base station~~ communication ~~transmitter~~ system comprising:

~~a multiuser encoding and spreading unit;~~

~~a polyphase-based multiband;~~

~~a IFFT unit;~~

~~a filtering unit, and~~

~~a multiband-based modulation and multicarrier.~~

N UWB mobile stations, where N is an integer and greater than 1;

an UWB basestation coupled to an UWB network interface that is connected to an UWB network;

said UWB basestation further including P convolution encoders, P interleavers, P multipler modules, P user keys, a summation, a multiband splitter, M serial-to-parallel (S/P) converters, an inverse fast Fourier transforms (IFFT) unit, M guards, M filtering units, a multiband multicarrier modulation, and a power amplifier (PA), where P and M are integers and greater than 1;

said summation is a block-based operation;

said P user keys generating P different sequences;

each of said P user keys spreading with each output of said P interleavers by each of said P multipler modules;

said UWB basestation receiving N different UWB signals from said N UWB mobile stations;

said UWB basestation transmitting N user's UWB signals containing N different user keys to N UWB mobile stations; and

each of said N UWB mobile stations transmitting UWB signals including one user key to said UWB basestation.

Claim 2 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base-station~~ communication ~~transmitter~~ system of claim 1 wherein ~~said multiuser encoding and spreading unit includes an N-user bitstream, a N-convolution encoder, a N-interleaver, a N-spread multiplier, and a N-user key sequence.~~ each of said P user keys is a unique pseudorandom (PN) sequence.

Claim 3 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base-station~~ communication ~~transmitter~~ system of claim 2 wherein ~~said N-user key sequence is orthogonal each other~~ each of the P user keys represents a password for a user.

Claim 4 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base-station~~ communication ~~transmitter~~ system of claim 3 wherein a cross-correlation between one user key ~~sequence~~ and other user keys ~~sequences~~ is almost equal to zero value.

Claim 5 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base-station~~ communication ~~transmitter~~ system of claim 1 wherein said ~~polyphase-based~~ multiband splitter further ~~includes~~ including ten sample delay[[s]] units, eleven down sample[[s]] units, eleven

random access memory (RAM) ~~memories~~ units, and [[one]] a modular counter.

Claim 6 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base station~~ communication ~~transmitter~~ system of claim 5 wherein said ~~polyphase-based~~ multiband splitter converts an N length of a serial sequence into eleven multiband sequences with a length of N/11, where N is equal to 11B and B is an integer and greater than 1.

Claim 7 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base station~~ communication ~~transmitter~~ system of claim 1 wherein said IFFT unit ~~includes~~ further having eleven independent and identical IFFT structures that are operated in parallel[[,]] ~~each of the IFFTs having 24 Nulls and 512 complex inputs to produce 1024 real-value output~~.

Claim 8 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base station~~ communication ~~transmitter~~ system of claim 1 wherein each of said M filtering units ~~includes eleven filtering sections, each filtering section~~ further having a dual-switch, two transmitter shaped filters, two digital-to-analog (D/A) converters, two analog reconstruction filters, and [[one]] a bit detector.

Claim 9 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base-station~~ communication ~~transmitter~~ system of claim 8 wherein said dual-switch further ~~contains~~ comprising two switches, one switch of said two switches rotating at even number of input positions and another switch of said two switches rotating at odd number of input positions sequentially.

Claim 10 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base-station~~ communication ~~transmitter~~ system of claim 8 wherein said bit detector is used to ~~identifies~~ identify ~~a value of~~ output values of the dual-switch ~~output~~.

Claim 11 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base-station~~ communication ~~transmitter~~ system of claim 1 wherein said multiband~~-based~~ multicarrier modulation ~~and multicarrier~~ ~~includes~~ further including eleven bit detectors, eleven multiband quadrature phase-shifted keying (QPSK) modulations, [[one]] a summation, and [[one]] an analog bandpass filter.

Claim 12 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base-station~~ communication ~~transmitter~~ system of claim 11 wherein said each of eleven multiband QPSK modulations ~~and multicarrier~~ further ~~includes~~ having a multi-oscillator, two oscillator switches, ~~and one~~ an QPSK switch, ~~controlled by the~~ a bit detector, ~~and one up-carrier multiplier and one down-carrier multiplier.~~ an even-sequence-based mixer, and an odd-sequence-based mixer.

Claim 13 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base station~~ communication ~~transmitter~~ system of claim 12 wherein said multi-oscillator further comprising ~~contains four carriers of~~ positive and negative carriers $\sin(2\pi f_i t)$, and positive and negative carriers $\cos(2\pi f_i t)$.

Claim 14 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base station~~ communication ~~transmitter~~ system of claim 12 wherein [[said]] one of the two oscillator switches connects to either the positive $\cos(2\pi f_i t)$ or the negative $\cos(2\pi f_i t)$ [[;]] and another of the two oscillator switches connects to either the negative $\sin(2\pi f_i t)$ or the positive $\sin(2\pi f_i t)$ at the same time.

Claim 15 (currently amended): The multiuser ~~DSSS-OFDM~~ DSSS OFDM multiband of UWB ~~base station~~ communication ~~transmitter~~ system of claim 12 wherein said QPSK switch ~~either~~ connects to either the ~~up-carrier multiplier~~ even-sequence-based mixer or ~~connects to~~ the ~~down-carrier multiplier~~ odd-sequence-based mixer.

Claims 16-28 (cancelled)

Claim 29 (new): The multiuser DSSS OFDM multiband of UWB communication system of claim 11 wherein each of said eleven bit detectors controls each of said eleven multiband QPSK modulations.

Claim 30 (new): The multiuser DSSS OFDM multiband of UWB communication system of claim 12 wherein said bit detector controls said two oscillator switches and said QPSK switch.

Claim 31 (new): The multiuser DSSS OFDM multiband of UWB communication system of claim 12 wherein one of the two oscillator switches connects to the positive $\cos(2\pi f_i t)$ if the bit detector identifies "00" bits from output of the dual-switch.

Claim 32 (new): The multiuser DSSS OFDM multiband of UWB communication system of claim 12 wherein one of the two oscillator switches connects to the negative $\cos(2\pi f_i t)$ if the bit detector identifies "10" bits from outputs of the dual-switch.

Claim 33 (new): The multiuser DSSS OFDM multiband of UWB communication system of claim 12 wherein another of the two oscillator switches connects to the negative $\sin(2\pi f_i t)$ if the bit detector identifies "01" bits from the outputs of the dual-switch.

Claim 34 (new): The multiuser DSSS OFDM multiband of UWB communication system of claim 12 wherein another of the two oscillator switches connects to the positive $\sin(2\pi f_i t)$ if the bit detector identifies "11" bits from the outputs of the dual-switch.

Claim 35 (new): The multiuser DSSS OFDM multiband of UWB communication system of claim 12 wherein said QPSK switch connects to an output of said even-sequence-based mixer if said bit detector identifies "00" or "10" bits from said outputs of said dual-switch.

Claim 36 (new): The multiuser DSSS OFDM multiband of UWB communication system of claim 12 wherein said QPSK switch connects to an output of said odd-sequence-based mixer if said bit detector identifies "01" or "11" bits from said outputs of said dual-switch.

Claim 37 (new): The multiuser DSSS OFDM multiband of UWB communication system of claim 12 wherein outputs of said QPSK switch are a QPSK modulated data sequence.